

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matters of:

ELECTRONIC APPLICATION OF KENTUCKY )  
UTILITIES COMPANY FOR AN ADJUSTMENT )  
OF ITS ELECTRIC RATES, A CERTIFICATE )  
OF PUBLIC CONVENIENCE AND NECESSITY ) CASE NO.  
TO DEPLOY ADVANCED METERING ) 2020-00349  
INFRASTRUCTURE, APPROVAL OF CERTAIN )  
REGULATORY AND ACCOUNTING )  
TREATMENTS, AND ESTABLISHMENT OF A )  
ONE-YEAR SURCREDIT )

ELECTRONIC APPLICATION OF LOUISVILLE )  
GAS AND ELECTRIC COMPANY FOR AN )  
ADJUSTMENT OF ITS ELECTRIC AND GAS )  
RATES, A CERTIFICATE OF PUBLIC ) CASE NO.  
CONVENIENCE AND NECESSITY TO DEPLOY ) 2020-00350  
ADVANCED METERING INFRASTRUCTURE, )  
APPROVAL OF CERTAIN REGULATORY AND )  
ACCOUNTING TREATMENTS, AND )  
ESTABLISHMENT OF A ONE-YEAR SURCREDIT )

**KENTUCKY SOLAR INDUSTRIES ASSOCIATION, INC.  
COMBINED RESPONSES TO KENTUCKY UTILITIES COMPANY’S  
AND LOUISVILLE GAS AND ELECTRIC COMPANY’S  
SUPPLEMENTAL DATA REQUESTS**

Comes now the Kentucky Solar Industries Association, Inc. (KYSEIA), by and through counsel, and submits its combined responses to Kentucky Utilities Company’s (“KU”) and Louisville Gas and Electric Company’s (“LG&E”) Supplemental Data Requests.

Respectfully submitted,

/s/David E. Spenard  
Randal A. Strobo  
Clay A. Barkley  
David E. Spenard  
STROBO BARKLEY PLLC  
730 West Main Street, Suite 202  
Louisville, Kentucky 40202  
Phone: 502-290-9751  
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Email: rstrobo@strobobarkley.com  
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Email: dspenard@strobobarkley.com  
*Counsel for KYSEIA*

**NOTICE AND CERTIFICATION FOR FILING**

Undersigned counsel provides notice that the electronic version of the paper has been submitted to the Commission by uploading it using the Commission’s E-Filing System on this 2nd day of August 2021, and further certifies that the electronic version of the paper is a true and accurate copy of each paper filed in paper medium. Pursuant to the Commission’s March 16, 2020, March 24, 2020, and July 22, 2021 Orders in Case No. 2020-00085, *Electronic Emergency Docket Related to the Novel Coronavirus Covid-19*, the paper, in paper medium, is not required to be filed. As per 807 KAR 5:001, Section 4(10), the taxpayer identification information in the attachment for Item 1 has been redacted.

/s/ David E. Spenard  
David E. Spenard

**NOTICE REGARDING SERVICE**

The Commission has not yet excused any party from electronic filing procedures for this case.

/s/ David. E. Spenard  
David E. Spenard

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Not Applicable

1. Please provide a copy of each IRS Form 990 filed by KYSIA, if any, for tax years 2018, 2019, and 2020.

**Response:**

KYSEIA objects to this request which appears calculated to annoy, oppress, unduly burden, and unduly cause expense to KYSEIA. Further, KYSEIA objects to any request for documents or information regarding, directly or indirectly, its members, donors, internal deliberations, discussions, and formulation of strategies and tactics. Notwithstanding the foregoing objections and without waiving any and all objections to this request, KYSEIA provides the attached screenshot containing the publicly available Form 990-N for KYSEIA for the years 2018, 2019, and 2020. While the information supplied is in the public domain, it pertains to matters outside of the scope of the Commission's jurisdiction and any examination upon this information is examination upon a collateral matter.



[Home](#) > [Tax Exempt Organization Search](#) > [Kentucky Solar Industries Association Inc](#)

[< Back to Search Results](#)

# Kentucky Solar Industries Association Inc

EIN: [REDACTED] | Lexington, KY, United States

## Determination Letter

A favorable determination letter is issued by the IRS if an organization meets the requirements for tax exempt status under the Code section the organization applied.

[> Final Letters](#)

## Form 990-N (e-Postcard)

Organizations who have filed a 990 N (e Postcard) annual electronic notice. Most small organizations that receive less than \$50,000 fall into this category.

[> Tax Year 2020 Form 990-N \(e-Postcard\)](#)

**Tax Period:**

2020 (01/01/2020 12/31/2020)

**EIN:**

[REDACTED]

**Legal Name (Doing Business as):**

Kentucky Solar Industries Association Inc

**Mailing Address:**

1038 BRENTWOOD CT NO STE B  
LEXINGTON, KY 40511  
United States

**Principal Officer's Name and Address:**

MATT PARTYMILLER

1038 BRENTWOOD CT NO STE B  
LEXINGTON, KY 40511  
United States

**Gross receipts not greater than:**  
\$50,000

**Organization has terminated:**  
No

**Website URL:**  
KYSEIA.ORG

> **Tax Year 2019 Form 990-N (e-Postcard)**

**Tax Period:**  
2019 (01/01/2019 12/31/2019)

**EIN:**

**Legal Name (Doing Business as):**  
Kentucky Solar Industries Association Inc

**Mailing Address:**  
1038 BRENTWOOD CT NO STE B  
LEXINGTON, KY 40511  
United States

**Principal Officer's Name and Address:**  
MATT PARTYMILLER

1038 BRENTWOOD CT NO STE B  
LEXINGTON, KY 40511  
United States

**Gross receipts not greater than:**  
\$50,000

**Organization has terminated:**  
No

**Website URL:**  
KYSEIA.ORG

> **Tax Year 2018 Form 990-N (e-Postcard)**

**Tax Period:**

2018 (01/01/2018 12/31/2018)

**EIN:**

[REDACTED]

**Legal Name (Doing Business as):**

Kentucky Solar Industries Association Inc

**Mailing Address:**

1038 BRENTWOOD CT NO STE B  
LEXINGTON, KY 40511  
United States

**Principal Officer's Name and Address:**

MATT PARTYMILLER

1038 BRENTWOOD CT NO STE B  
LEXINGTON, KY 40511  
United States

**Gross receipts not greater than:**

\$50,000

**Organization has terminated:**


No

**Website URL:**

KYSEIA.ORG

> **Tax Year 2017 Form 990-N (e-Postcard)**

*Page Last Reviewed or Updated: 20-November-2020*

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**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

2. Provide copies of all electronic files in native format with formulas intact used in your analysis. This includes copies of all workpapers supporting your testimony, analyses, and conclusions.

**Response:**

Workpapers attached.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

3. Please provide a detailed description of Mr. Barnes's experience performing embedded cost of service studies. In this regard, provide the following:
  - a. List each electric utility for which Mr. Barnes has performed an embedded cost-of-service study. For each such utility, provide the test period of the cost-of-service study, the methodology used to allocate fixed production costs, the party for whom Mr. Barnes conducted the cost-of-service study, the regulatory jurisdiction in which the utility provides service, and the case or docket number as applicable to the marginal cost-of-service study performed by Mr. Barnes.
  - b. For each embedded cost of service performed by Mr. Barnes, describe the methodology used to allocate production fixed costs and purchased power costs.

**Response:**

Mr. Barnes has reviewed numerous embedded cost of service studies (ECOSS) and is highly familiar with competing methods of cost assignment in ECOSS. Mr. Barnes has not worked for a utility and has therefore not performed an ECOSS. Refer to Mr. Barnes' JRB-1 (PDF pp. 27-32 of his Direct Testimony in Case No. 2020-00350), which contains a list of cases in which Mr. Barnes has participated, many of which involved a review of different aspects of a utility's ECOSS.

- a. See above.
- b. See above.



**KY PSC Case No. 2020-00349 and  
Case No. 2020-00350  
Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

4. Please provide a detailed description of Mr. Barnes's experience performing marginal cost of service studies. In this regard, provide the following:
  - a. List each electric utility for which Mr. Barnes has performed a marginal cost-of-service study. For each such utility, a description of the methodology used in the study to calculate marginal costs, the party for whom Mr. Barnes conducted the cost-of-service study, the regulatory jurisdiction in which the utility provides service, and the case or docket number as applicable to the marginal cost-of-service study performed by Mr. Barnes.
  - b. For each cost of service performed by Mr. Barnes, describe the methodology used to allocate production fixed costs and purchased power costs.

**Response:**

Mr. Barnes has reviewed numerous assessments of marginal costs, particularly as these issues relate to value of distributed generation studies. Mr. Barnes has not worked for a utility, and has therefore never performed a marginal cost of service study.

- a. See above.
- b. See above.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

5. Please provide a detailed description of Mr. Barnes's experience performing avoided cost studies. In this regard, provide the following:
  - a. List each electric utility for which Mr. Barnes has performed an avoided study. For each party for whom Mr. Barnes conducted the avoided cost study, list the regulatory jurisdiction in which the utility provides service, and the case or docket number as applicable to the marginal cost-of-service study performed by Mr. Barnes.
  - b. For each such utility, describe the methodology used to calculate production capacity avoided costs, production energy avoided cost, transmission capacity avoided cost, distribution capacity avoided cost.

**Response:**

Mr. Barnes has reviewed numerous methods of calculating avoided costs. Mr. Barnes has never performed an avoided cost study.

- a. See above.
- b. See above.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

6. See pages 8-9 of Mr. Barnes's Supplemental Testimony. To the extent not already provided in response to these requests, please provide all supporting data, citation, sources, and electronic workpapers with formulas intact supporting all values resulting in Mr. Barnes's "capacity rate of \$0.0357/kWh."

**Response:**

Workpapers attached to these responses (see Item 2 above).

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

7. On page 10, lines 8-10 of his Supplemental Testimony, Mr. Barnes states that “my preliminary LOLP calculation produces a weighted solar capacity factor of 58.14 percent. A 6CP assessment produces an effective solar capacity factor of 35.92.” With respect to these values, provide the workpapers showing a detailed calculation of these percentages, with references describing the source of the demands or other data used to perform the calculations.

**Response:**

See response to Staff 3-1 and 3-2 and attached workpapers (see Item 2 above). Workpapers contain calculations, with further explanations of sources in the responses to Staff.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

8. On page 10, lines 17-20 of his Supplemental Testimony, Mr. Barnes states, “The resulting preliminary rates under an LOLP methodology are \$0.01989/kWh for KU and \$0.01037/kWh for LG&E. Under a 6CP methodology the rates are \$0.00812/kWh for KU and \$0.00782/kWh for LG&E.” With respect to these values, provide the electronic workpapers showing a detailed calculation of these percentages, with references describing the source of the costs, demands and energy used to calculate the values, all assumptions made by Mr. Barnes, and the source and basis for any assumptions. Provide copies of any source documents used by Mr. Barnes.

**Response:**

See response to Staff 3-1 and 3-2 and attached workpapers (see Item 2 above). Workpapers contain calculations, with further explanations of sources in the responses to Staff.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

9. On page 10, lines 17-20 of his Supplemental Testimony, Mr. Barnes states, “The resulting preliminary rates under an LOLP methodology are \$0.01989/kWh for KU and \$0.01037/kWh for LG&E. Under a 6CP methodology the rates are \$0.00812/kWh for KU and \$0.00782/kWh for LG&E.” Please confirm that these values were derived from costs determined in the Companies’ embedded cost of service studies.

**Response:**

The values are derived from unit costs sourced from the Companies’ embedded cost studies, adjusted to reflect modeled solar contribution to peak demands. See responses to Staff 3-1 and 3-2 for the specific data sources.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

10. On page 10, lines 17-20 of his Supplemental Testimony, Mr. Barnes states, “The resulting preliminary rates under an LOLP methodology are \$0.01989/kWh for KU and \$0.01037/kWh for LG&E. Under a 6CP methodology the rates are \$0.00812/kWh for KU and \$0.00782/kWh for LG&E.” Please confirm that these values derive from embedded transmission costs. If they do not derive from embedded transmission costs, please explain the basis for these values.

**Response:**

See response to KU/LG&E Supplemental Request Item 9 (above).

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

11. On page 10, lines 17-20 of his Supplemental Testimony, Mr. Barnes states that, “The resulting preliminary rates under an LOLP methodology are \$0.01989/kWh for KU and \$0.01037/kWh for LG&E. Under a 6CP methodology the rates are \$0.00812/kWh for KU and \$0.00782/kWh for LG&E.” If these costs derive from embedded costs, provide a detailed explanation of how the Companies can avoid these embedded costs.

**Response:**

Mr. Barnes used transmission unit costs as an approximation of the marginal costs of adding an additional kW of transmission load carrying capability. The Companies would not avoid these specific embedded costs, but absent a full marginal cost study, the historic costs of transmission investment in unit cost form can serve as an approximation of the costs the Companies would incur on a per unit basis (\$/kW) for additional transmission investments.



**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

12. Please identify each planned transmission plant investment that KU and LG&E will avoid during the next 20 years because of purchasing energy from customer generators served under NMS-2. In the response, identify all transmission lines, transformers, substations, and other specific equipment that will be avoided as a result of purchases from customer-generators served under NMS-2.

**Response:**

See response to KU/LG&E Supplemental Requests Items 23 and 24 (below).

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

13. Considering that KU and LG&E are not members of PJM, please explain in detail why PJM's ancillary service rates should be used to determine avoided ancillary service costs for KU and LG&E instead of the ancillary service rates for KU and LG&E that have been approved by the Federal Energy Regulatory Commission ("FERC") for KU and LG&E.

**Response:**

Mr. Barnes suggested this as a potentially reasonable proxy to be used to the extent that Company-specific estimates could not be developed. He was not able to perform such an evaluation for the purpose of his Supplemental Testimony.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

14. Please explain whether relying on ancillary service rates in PJM rather than the ancillary service rates or ancillary service costs that have been approved by FERC for LG&E and KU, as applicable, would violate the filed rate doctrine.

**Response:**

KYSEIA objects to this question because it calls for a legal conclusion by this witness. The foregoing objection notwithstanding, see the response to KU/LG&E Supplemental Request Item 13 (above).

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

15. Explain in detail why Mr. Barnes did not calculate avoided ancillary service costs based on KU and LG&E's ancillary service costs but instead relied on PJM costs.

**Response:**

See response to KU/LG&E Supplemental Request Item 13 (above).

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

16. Considering that KU and LG&E are not members of PJM, please explain in detail why generation capacity costs related to PJM should be used to determine avoided capacity costs for KU and LG&E instead of generation capacity costs that could be avoided by KU and LG&E.

**Response:**

The PJM Net CONE costs of capacity are a publicly accessible, transparent measure of the costs of new generation capacity. Mr. Barnes used the PJM Net CONE values for a natural gas combined cycle (“NGCC”) generation unit based on his review of the Company’s most recently filed IRP, which appeared to indicate that an NGCC unit would be the next capacity addition to the Companies’ system.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

17. Explain in detail why Mr. Barnes did not calculate avoided generation costs based on KU and LG&E's generation capacity but instead relied on PJM costs.

**Response:**

See the response to KU/LG&E Supplemental Request Item 16 (above). Mr. Barnes does not believe that it is necessary to re-model all of the financial calculations that underly the PJM calculation of Net CONE for an NGCC unit built by the Company as the character of the underlying cost drivers would remain the same.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

18. Explain in detail why Mr. Barnes did not calculate avoided energy costs based on KU and LG&E's energy costs but instead relied on PJM costs.

**Response:**

As explained in Mr. Barnes' Supplemental Testimony, the PJM price at the LGE-PJM interface represents the value of substitute energy that could be purchased by the Companies in the event that their own generation was insufficient to meet the Companies' load requirements, or alternatively, the value of generation in produced by Company-operated units that is in excess of the Companies' energy requirements, which could be marketed to other parties. In other words, if the Company under-forecasted load inclusive of the effects of customer-sited solar within its service territory, it could purchase additional energy at the local PJM market price. On the other hand, if the Company over-forecasted load inclusive of the effects of customer-sited solar within its service territory, it would have excess energy available for sale to other entities at the prevailing market price.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

19. Please provide the percentage of KU's energy requirements that were supplied by PJM generation resources for the 12 months ended December 31, 2020.

**Response:**

Mr. Barnes does not possess the information to respond this request, but observes that it is irrelevant to arriving at a market price for substitute market energy or the market value derived from the sale of excess energy. See also the response to KU/LG&E Supplemental Request Item 18 (above).



**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

20. Please provide the percentage of LG&E's energy requirement that were supplied by PJM generation resources for the 12 months ended December 31, 2020.

**Response:**

Mr. Barnes does not possess the information to respond this request, but observes that it is irrelevant to arriving at a market price for substitute market energy or the market value derived from the sale of excess energy. See also the response to KU/LG&E Supplemental Request Item 18 (above).

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

21. Please provide the percentage of KU's energy requirements that were supplied by KU and LG&E's combined generation for the 12 months ended December 31, 2020.

**Response:**

Mr. Barnes does not possess the information to respond this request but observes that it is irrelevant to arriving at a market price for substitute market energy or the market value derived from the sale of excess energy. See also the response to KU/LG&E Supplemental Request Item 18 (above).

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

22. On page 10, line 17 of his testimony, Mr. Barnes indicated that he assumes that the loss factor is 5%. Please provide a derivation of the 5%, showing the losses (a) broken down by voltage and (b) broken down between I2R losses and core losses.

**Response:**

As Mr. Barnes noted in his testimony, the 5% demand loss adder is an assumed approximation as Mr. Barnes was not aware of where Company specific loss factors could be found at the time his Supplemental Testimony was filed. The 5% amount is consistent with a conservative range of loss factors for losses on the transmission and distribution system used in many value of solar or value of DERs studies.

Mr. Barnes observes that the assumed 5% amount is less than or roughly equivalent to demand loss factors that would be indicated by the value that would be arrived at employing Mr. Seelye's method of de-rating Company-specific demand loss factors, as presented in his Supplemental Testimony. Employing the 20% de-rate used by Mr. Seelye to the demand loss factors provided in response to PSC 5-20 (KU) and PSC 5-21 (LGE), the loss factors for transmission and distribution combined would be:

KU:  $9.017\% * 80\% = 7.21\%$

LGE:  $6.325\% * 80\% = 5.06\%$

Mr. Barnes also observes that these average losses fail to take into account the fact that losses are higher during peak periods due to the dependency of losses on the square of current. Accordingly, the marginal line losses avoided by customer-sited PV may in fact be higher than averaged losses.

- a. See above.
- b. See above.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

23. Assuming that net metering is capped at 1% of system peak demand, please explain in detail which, if any, of KU's and LG&E's existing distribution facilities Mr. Barnes believes energy supplied by NMS-2 customers will allow KU and LG&E to avoid replacing over time. For example, will KU and LG&E be able to avoid replacing poles on the distribution system when they need to be replaced?

**Response:**

Customer generation systems would not replace existing distribution facilities, though they may allow future replacements to utilize smaller-sized equipment than would otherwise be the case, and defer or avoid infrastructure investments driven by loading.

The specific amount of cost avoidance attributable to net metering systems at 1% of system peak demand would depend on where those systems are installed relative to where infrastructure investments would otherwise be needed, as well as the specific costs of those avoided investments. Such a granular evaluation could be conducted in theory, but would require extensive data and analysis that makes it impractical and potentially impossible to conduct at present. Lacking that, a system-wide evaluation approximates the cost avoidance of a dispersed fleet of customer-sited PV systems.

In practice, the proper way to view cost avoidance is to assign value to each incremental amount of reduced infrastructure loading. For instance, a PV system located in the vicinity of several homes that increase their loads can operate to offset the added load those increases collectively place on upstream infrastructure. The effect lasts as long as the PV system remains in operation, such that a PV installation made today prevents the breach of a load threshold caused by additional loads that occur during successive years.

**Kentucky Solar Industries Association, Inc.**  
**KY PSC Case No. 2020-00349 and**  
**Case No. 2020-00350**  
**Responses to KU/LG&E Supplemental Data Requests**

**Witnesses Responsible:**

Justin R. Barnes

24. Assuming that net metering is capped at 1% of system peak demand, please explain in detail which, if any, of KU's and LG&E's existing transmission facilities Mr. Barnes believes energy supplied by NMS-2 customers will allow KU and LG&E to avoid replacing over time. For example, will KU and LG&E be able to avoid replacing transmission towers on the transmission system when they need to be replaced?

**Response:**

See response to KU/LG&E Supplemental Request Item 23 (above). As with the distribution system, incremental dispersed generation offsets load increases that might otherwise cause the need for transmission upgrades. There is no specific threshold at which such reduced loading does or does not have value. This principle is the same on the transmission system as it is on the distribution system.

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

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ELECTRONIC APPLICATION OF KENTUCKY )  
UTILITIES COMPANY FOR AN ADJUSTMENT )  
OF ITS ELECTRIC RATES, A CERTIFICATE )  
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ELECTRONIC APPLICATION OF LOUISVILLE )  
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ACCOUNTING TREATMENTS, AND )  
ESTABLISHMENT OF A ONE-YEAR SURCREDIT )

**AFFIDAVIT OF JUSTIN BARNES  
VERIFICATION**

JURISDICTION )  
County of Wise, Virginia )

The undersigned, Justin Barnes, being first duly sworn, states the following: The prepared Responses attached thereto constitute the testimony of Affiant in the above-styled cases. Affiant states that he would give the answers set forth in the Responses if asked the questions propounded therein. Affiant further states that, to the best of his knowledge, his statements are true and correct. Further, Affiant saith not.

  
Name of Witness

SUBSCRIBED AND SWORN to before me on this 2<sup>nd</sup> day of August, 2021 by

Justin Barnes

M. Lee Hagy  
NOTARY PUBLIC

My Commission Expires: 06/30/2023

